

## MEMORANDUM

**DATE:** October 13, 2020

**TO:** Bill Price  
AEA Project Manager

**FROM:** Dave Cooper, P.E.  
HDL Project Manager

**RE:** Gambell Barge Header Upgrades Gambell, AK  
Site Visit Trip Report

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GEOTECHNICAL  
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TRANSPORTATION  
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ENVIRONMENTAL  
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SERVICES

HDL Engineering Consultants, LLC (HDL) has prepared the following trip report documenting our site visit to Gambell, Alaska on September 14 through September 15, 2020.

### Objective:

The purpose of the site visit was to; inspect the progress of the project and determine if the fuel pipes were completed to a point that they could be used to transfer fuel from the barge to the tanks farm.

### Trip Summary:

I traveled to Nome on Sunday September 13<sup>th</sup> and traveled onto Gambell on the Bering Air's Monday morning flight and arrived on site at approximately 10:00 am (9/14). Austin with Scott's Heating and Plumbing met me at the airport and Austin and I spent several hours inspecting the fuel pipes that were installed in the open ditch from the tank farm to the barge fuel header and the above grade piping and valves at the fuel header and the tank farm. During the rest of the day, I collected a 3D image of the existing tank farm and project progress photos; I talked with the tank farm operator and Jeremiah, the tank farm manager, about possible maintenance and repairs for the tank farm; I discussed the pipe coating application requirements with the coating sub-contractor; and I reviewed the remaining work to be completed on the project with Austin. The following day I returned to Nome on the Bering Air morning flight and arrived in Nome around 11:20 am. I was unable to meet the 11:30 baggage check-in time at Alaska Airline so I stayed the night in Nome and returned to Anchorage on Thursday September 16<sup>th</sup>.

The following is a summary of the discussions I had with the people on site and my findings during the site inspection trip. The attached photo log shows the condition of the tank farm and the project progress during my site visit.

Figures 1 through 4 show the barge header piping and valve connections at the tank farm. The diesel piping has a branch tee connection to the school tank and the rest of the piping was installed per the project plans. I noted that the flange to flange connections on the piping

connection to the existing fuel pipe was thicker than the other valve to flange connections and the flange bolts were too short. Austin was able to replace the flange bolts with bolts that were long enough to have at least one thread pasted the nuts.

The pipe and fittings in the tank farm were coated with the two-part epoxy coating but still needed the white and green top coating to distinguish between the gasoline and diesel piping.

The ball valves for the project were provided with lockable levers but locks had not been provided for the valves. Valves in the tank farm and at the barge landing will need locks.

The above grade fuel pipes in the tank farm were supported with unistrut bracing off the containment dike wall. Figures 16, 17, and 21 show the excavation next to the dike wall and the section of the dike wall that has settled due to undermining the dike wall foundation. I discussed the dike wall foundation with Austin and he said he would lift up the fuel pipes to take some of the strain off the dike wall and he would jack up the dike wall and compact the undermined area when the fuel pipes are backfilled.

Figures 5 through 8 and figures 18 and 19 show the condition of the tanks and piping in the tank farm. The bulk fuel storage tanks are single wall 27,000-gallon tanks. The valves and piping were in fair condition but all valves and piping showed extensive signs of surface rust. The tank coating has surface rust spots on all of the tanks and the edges of the tank saddles and foundation beams show extensive rust damage. The tank farm operator said he has used a brass wheel to remove the tank coating around the rust spots and then he has repainted the rust spot areas. The repainted areas on the tanks all show signs of continued surface rust.

The tank appurtenances on the 27,000-gallon only include a 3" bottom fill and draw connection, a bottom 1" water draw connection, a normal whistle vent, several top bungs, one 24" access hatch, and one 3" access hatch. The bulk storage tanks in the tank farm do not have any emergency vents installed on the tanks.

The tank farm dual product-dispensing tank has been upgraded and the tank looks to be in good condition. While I was on site, the fuel dispenser was not working and the tank farm operator was using temporary mobile dispensers to sell fuel. A contractor was scheduled to be in Gambell later in the week to fix the fuel dispenser.

I discussed with the tank farm operator the need to remove the water that collects in the tank. He said he has checked for water in the tanks but has never noticed any large amount of water in the tanks. He said he has not ever tried to remove water from the tanks.

I inspected the spill response equipment with Austin and the tank farm operator and showed the operator the equipment that has been provided to help remove the water from the tanks. I also confirmed with Austin that all of the spill response equipment is on site. I asked Austin to assemble the pumps and hoses to confirm that all the fittings and parts needed for a spill response are on site.

Figures 9 through 16 and figure 22 show the fuel pipes in the open ditch installed from the barge header to the tank farm. Austin and I walked the length of the fuel pipeline and inspected the pipe coating and pipe joint coating. About half of the joints had been sand blasted and

coated prior to my arrival on site. Austin and I found a few places on the pipes where the coating had been damaged during construction. We discussed need for contractor quality control inspection of the pipe coating during the backfill active to assure the pipe coating is not damaged. We showed the few coating repair spots to the coating contractor and discussed his plans for completing the remaining pipe coating work. The two-part epoxy joint coating material has a 50 degree temperature requirement for application. The coating contractor said he was watching the temperature and humidity to see when the coating could be applied and he anticipated that he would be able to complete the pipe coating later in the week.

Figures 14 and 15 show the pipe excavation at the barge header. The existing fuel pipes have bracing installed on the pipes to keep the pipes straight. Austin and I discussed placing fill material from the pit around the pipes keep the pipes from moving in the loose beach rock material.

Figures 20 and 21 show that the existing fuel pipes have been cut off below grade. I discussed with Austin the contract requirement to remove any remaining fuel from the existing fuel pipes. Austin said he was planning to tap the fuel pipes at the low section of the pipes to remove the fuel. I later discussed the existing fuel pipe decommissioning contract requirements with Steven Pillans and asked him to provide a plan for removing the fuel from the pipes. We discussed fabricating a pipe connection at the barge header to install a pipe pig and air connection and a pipe connection at the tank farm to catch the pipe pig and the fuel that gets pushed out of the pipes. We discussed the safety issues with pressurizing the pipes to push the pigs through the pipes and I told Steven that the pipe connections on the ends of the pipes would need to be welded or in some way restrained so if the pipe connection failed it would not cause a safety hazard.

Figure 22 shows the tank farm power and control wiring that was damaged during the ditch excavation. Austin confirmed that an electrical contractor repaired the wires and that the fuel dispenser wiring is working properly.

The Following is a list of project punch list items that will need to be completed prior to the final completion inspection. Some of these punch list items have been completed in the past few weeks and have been shown in the contractor daily reports.

1. Sand blast and coat remaining pipe joints and fittings.
2. Contractor quality control pipe coating inspection of underground piping prior to backfill.
3. Paint all above ground pipe and fittings with white or green paint.
4. Install Anode Ribbon.
5. Regrade bottom of ditch and install pipe bedding.
6. Back fill ditch and maintain 3-foot pipe burial depth.
7. Complete final site as built survey.
8. Install cathodic protection test station, and fence.
9. Install information label at Cathodic protection test station. The label should tell the fuel operator what the junction box is and how it should be used.....

## **Fuel Pipeline Cathodic Protection Test Station**

**Fuel pipeline Cathodic Protection system should be test every 5 years by qualified personnel**

**Last Date System Tested September 2020**

10. Install fill material around barge header pipes.
11. Install bollards, fill with concrete, and paint bollards.
12. Install signs.
13. Install valve locks.
14. Repair tank farm man gate.
15. Repair containment dike wall.
16. Install 1" valves at barge header.
17. Remove remaining fuel from old fuel pipes and abandon fuel pipes per contract specifications.
18. Install pipe makers.
19. Provide SHPO concurrence letter that fill placed outside of the easement areas can remain in place.

Prior to the Final Completion Inspection, the Contractor shall provide documentation such as pictures, receipts, test results... that the punch list items listed in this report and all other work required to completed the contract requirements have been completed.

A 3D image of the Gambell Tank Farm can be accessed at the following link

<https://my.matterport.com/show/?m=mbfZzsrzaxw>

attachment: Site Trip Photo Log